

The Integumentary System



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ⇨ المناهج الإماراتية ⇨ الصف التاسع المتقدم ⇨ علوم ⇨ الفصل الثالث ⇨ ملفات متنوعة ⇨ الملف

تاريخ إضافة الملف على موقع المناهج: 2026-06-12 11:50:01

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
علوم:

التواصل الاجتماعي بحسب الصف التاسع المتقدم



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة علوم في الفصل الثالث

درس الأدوية وتأثيرها على الجهاز العصبي	1
The Senses	2
Structure of The Nervous System	3
L1 and 2 Review - Nervous System	4
مراحل نمو الإنسان قبل الولادة	5

The Integumentary System

Section 1: Vocabulary & Definitions

Write the appropriate term for each of the following definitions:

Definition	Term
A pigment produced by cells in the inner layer of the epidermis that protects the skin from ultraviolet (UV) radiation and influences skin color.	Melanin
A structure that produces oil (sebum) which gives the skin and hair an oily texture.	Sebaceous gland
A protein found in the outer layers of epidermal cells that is water-resistant and protects the inner cells and tissues.	Keratin
A narrow cavity in the dermis from which hair cells grow.	Hair follicle
The outermost surface layer of the skin.	Epidermis
The thick, inner layer of the skin.	Dermis

Section 2: Skin Structure & Tissue Analysis

Analyze the four types of body tissues found in the integumentary system and state their functions:

1. **Epithelial Tissue:** Covers body surfaces and lines organs.
2. **Connective Tissue:** Provides support and protection (found in the dermis).
3. **Muscle Tissue:** Involved in movement (e.g., arrector pili muscles causing goosebumps).
4. **Nerve Tissue:** Coordinates body responses to environmental stimuli.

Section 3: Multiple Choice Questions

4. What type of tissue is responsible for "goosebumps"?

- A. Epithelial B. Connective C. Muscle

5. When do blackheads form?

- A. When sebaceous glands become clogged.
B. When dirt accumulates in the skin's ridges.
C. When hair follicles grow inward instead of outward.
D. When an excess amount of keratin is produced.

6. How does the skin help regulate body temperature?

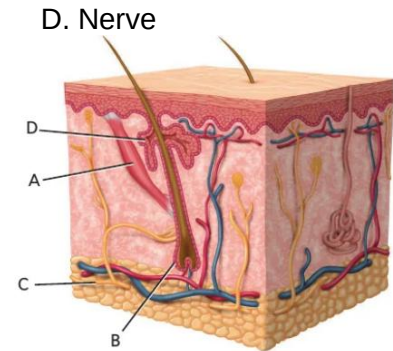
- A. By increasing sweat secretion.
B. By retaining water.
C. By producing Vitamin D.
D. By regulating the oil content in the epidermis.

7. Which of the following is NOT found in the dermis?

- A. Muscles B. Sweat and sebaceous glands C. Fat cells D. Nerve cells

8. What can be inferred when the epidermis is exposed to tanning?

- A. Sun exposure for tanning results in healthier skin.
B. Tanning may indicate skin damage due to the sun.
C. Skin darkening enhances skin elasticity, making it tight.
D. Skin darkening gives the skin a more youthful appearance.



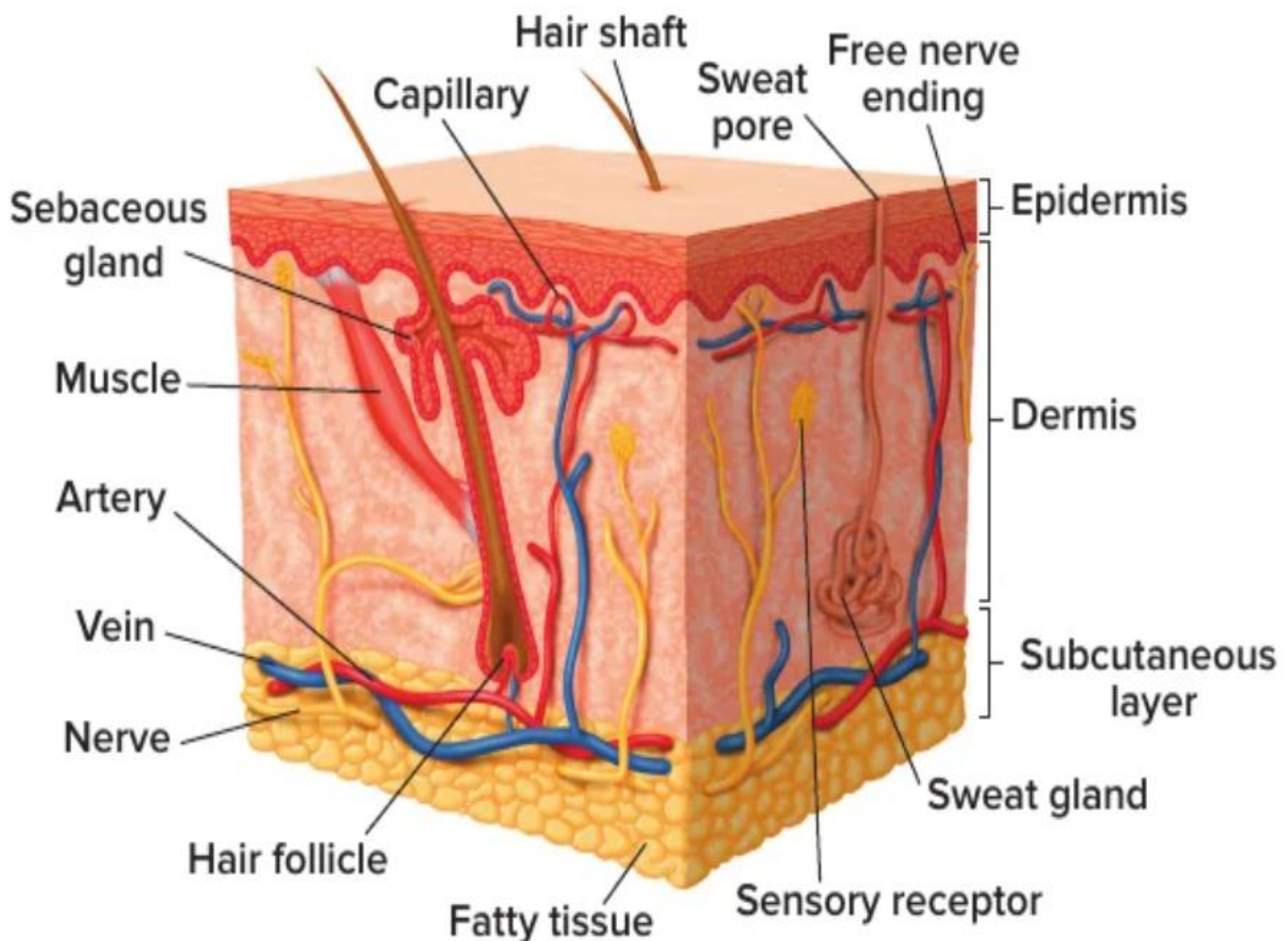
Section 4: Critical Thinking & Homeostasis

- **Question 9:** What are the potential effects on the body if the epidermis did not exist?
- **Question 10:** What are the potential effects on the body if the dermis did not exist?
- **Question 11:** Describe how the integumentary system contributes to the process of internal homeostasis.
- **Question 12:** Explain why cutting hair is painless.
- **Question 13:** Evaluate why individuals with third-degree burns may not feel pain at the site of the burn

Section 5: Wound Healing Process

Sequence the following steps of wound healing:

- (.....) Cells beneath the scab multiply and fill the wound.
- (.....) The skin is injured and bleeds.
- (.....) A scab forms on the skin to close the wound.
- (.....) Blood flows out of the wound and then clots.
- (.....) White blood cells move to the area to fight infection.



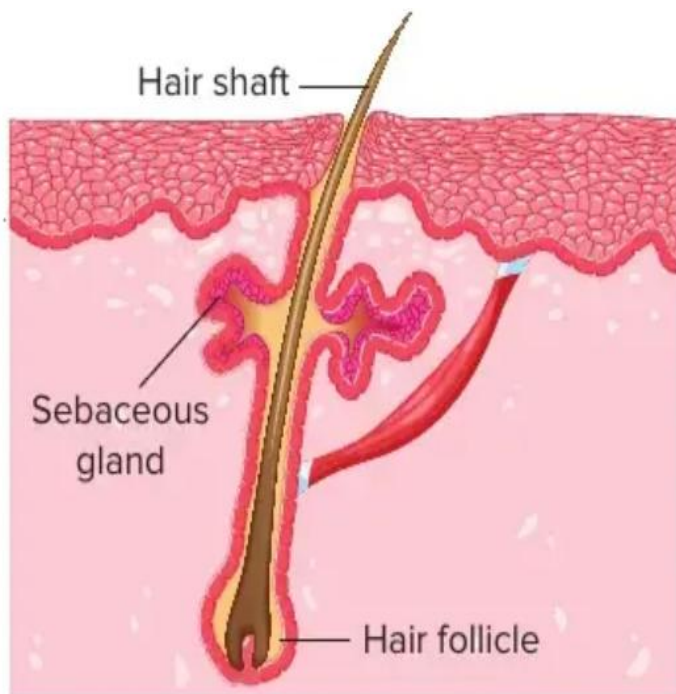


Figure 3 Hairs grow out of hair follicles, structures found in the dermis.

Table 1 Classification of Burns

Severity of burn	Damage	Effect
First-degree	Cells in the epidermis are injured and may die.	• Redness and swelling • Mild pain
Second-degree	Cells deeper in the epidermis die. Cells in the dermis are injured and may die.	• Blisters • Pain
Third-degree	Cells in the epidermis and dermis die. Nerve cells and muscle cells are injured.	• Skin function lost • Healthy skin needs to be transplanted • No pain because of nerve cell damage

1. Which of the following tissues is primarily responsible for forming the body's communication network within the skin?

- A) Epithelial tissue
- B) Nerve tissue
- C) Connective tissue
- D) Muscle tissue

2. A student examines a skin slide and notices a protein that provides a waterproof quality to the outer layer. Which protein is being observed?

- A) Melanin
- B) Keratin
- C) Collagen
- D) Hemoglobin

3. What is the primary function of melanin in the inner layer of the epidermis?

- A) To produce Vitamin D
- B) To provide structural support
- C) To protect deeper cells from UV radiation
- D) To waterproof the skin

4. Which layer of the skin contains nerve cells, muscle fibers, sweat glands, and oil glands?

- A) Epidermis
- B) Subcutaneous layer
- C) Dermis
- D) Stratum corneum

5. What happens when the sebaceous glands produce too much oil?

- A) The skin becomes too dry
- B) Hair stops growing
- C) Follicles can become blocked, leading to acne
- D) The person stops sweating

6. How does the skin contribute to the regulation of body temperature on a hot day?

- A) By producing more melanin
- B) By shivering
- C) By producing sweat that evaporates
- D) By contracting muscle cells in the dermis

7. What is the biological importance of the skin's response to ultraviolet (UV) light in terms of nutrition?

- A) It produces Vitamin C
- B) It produces Vitamin D
- C) It produces calcium
- D) It produces proteins

8. A patient arrives with a burn that has damaged both the epidermis and the dermis, and blisters have formed. How would this burn be classified?

- A) First-degree burn
- B) Second-degree burn
- C) Third-degree burn
- D) Fourth-degree burn

9. Why is a third-degree burn often associated with a lack of pain in the affected area?

- A) The brain blocks the pain signals
- B) Nerve cells in the dermis are destroyed
- C) The patient is in shock
- D) The fat layer protects the nerves

10. What is the function of the subcutaneous layer located beneath the dermis?

- A) To produce melanin
- B) To store fat and help the body retain heat
- C) To waterproof the skin
- D) To produce new skin cells

11. In the process of skin repair, what is the immediate function of a blood clot?

- A) To produce Vitamin D
- B) To close the wound and prevent further blood loss
- C) To grow new hair follicles
- D) To increase melanin production

12. Which type of skin cancer is considered the most dangerous because it can spread to internal organs?

- A) Basal cell carcinoma
- B) Melanoma
- C) Squamous cell carcinoma
- D) Keratinoma

13. What happens to the hair and skin when the sebaceous glands function normally?

- A) They become dry and brittle
- B) They are lubricated and kept soft
- C) They change color
- D) They fall out

14. Based on the textbook, what is a recommended way to reduce the risk of skin cancer?

- A) Using tanning beds daily
- B) Avoiding the sun between 10 a.m. and 4 p.m.
- C) Increasing intake of Vitamin D supplements
- D) Washing the skin frequently with soap

15. How do 'goose bumps' help some mammals (other than humans) in cold environments?

- A) By cooling the skin surface
- B) By trapping air that insulates the body
- C) By increasing blood flow to the skin
- D) By producing more sweat

16. The epidermis is described as being about 10 to 30 cells thick. Why is mitosis constantly occurring in its inner layer?

- A) To produce more oil
- B) To replace cells that are lost or die at the surface
- C) To make the skin thicker as we age
- D) To help the body store fat

17. Which of the following describes a 'First-degree burn'?

- A) Muscle and nerve cells are destroyed
- B) Cells in the dermis die
- C) Cells in the epidermis are injured and may die
- D) Blisters form immediately

18. What is the role of white blood cells during the skin's healing process?

- A) To create the scab
- B) To produce keratin
- C) To get rid of any bacteria that entered the wound
- D) To decrease the amount of melanin

19. Which of the following is NOT a part of the integumentary system?

- A) Hair
- B) Nails
- C) Oil and sweat glands
- D) Bones

20. If an individual who usually burns in 10 minutes uses a product with an SPF of 15, how long will they be protected?

- A) 15 minutes
- B) 25 minutes
- C) 150 minutes
- D) 100 minutes
